WHAT IS CLAIMED IS:

1. A method of processing an incident signal within a "RAKE" receiver with several fingers, comprising:

receiving the incident signal formed from symbols output from at least one multi-path transmission channel for which each path transports a delayed version of the signal;

detecting paths for allocation to at least some of the fingers;

combining the information output from each finger assigned to a path within a memory capable of storing a number of symbols larger than the maximum delay between the paths and which can be addressed by address pointers associated with the corresponding fingers including defined first and last fingers, the combination step including:

pointing address pointers in a steady state phase to addresses with mutual spacings taking account of mutual delays in the number of symbols between the paths;

storing a current symbol received on the first finger in the memory at the write address denoted by its corresponding address pointer;

incrementing the address pointer; and

before reception of the next symbol on this first finger, extracting the contents of the memory stored at the read addresses denoted by all the other address pointers in sequence, summing these contents in sequence with the symbols present on the other fingers, then storing these sums, except for the sum corresponding to the last finger, at the same read addresses before incrementing all the other pointers, and delivering the last sum corresponding to the last finger at the output from the receiver.

2. The method according to claim 1, wherein combining comprises a transient phase in which initial addresses of the address pointers are all equal to a same initial value, and wherein the different fingers output symbols progressively and at corresponding different instants, and wherein the same processing is done in this transient phase as is done in the steady state phase for the fingers on which symbols are present.

3. The method according to claim 1, wherein combining comprises a transient phase in which initial addresses of the address pointers are predetermined taking

account of any differences in the number of symbols between the paths, and wherein the same processing is done in this transient phase as is done in the steady state phase, except for delivering the last sum corresponding to the last finger at the output from the receiver.

4. The method according to claim 1, wherein each symbol is composed of several chips, and a rate of the combination step is controlled by a clock signal with a period equal to the duration of one chip divided by a predetermined number, and further including extracting the memory contents denoted by a pointer during one cycle of the clock signal and incrementing the pointer corresponding to the next cycle.

5. The method according to claim 1, wherein the memory contents are used without initializing the memory beforehand by adding zero to the value of the symbol on the first finger before writing it in memory.

6. The method according to claim 1, further comprising resetting the contents of the memory located at

the address pointed to by the address pointer of the finger that accesses this address before the other fingers to zero when a symbol arrives on this finger.

7. The method according to claim 1, wherein the number of symbols that can be stored in the memory is equal to the number of symbols corresponding to the maximum delay between the paths, plus one.

8. A "RAKE" receiver, comprising:

a signal input to receive an incident signal formed from symbols output from at least one multi-path transmission channel in which each path transports a delayed version of the signal;

several fingers, each intended to demodulate a given path at a given instant;

a control unit designed to detect and allocate paths to at least some of the fingers; and

a combination unit connected to the output from the fingers and designed to sum the information produced at the output from each finger, the combination unit comprising:

a memory capable of storing a number of symbols corresponding to the maximum delay between the paths;

address pointers associated with each corresponding finger; and

processing means with a steady state phase during which the address pointers point to addresses with mutual spacings taking account of the mutual delays between the paths, and being capable of receiving a current symbol on a first finger during

this steady state phase, storing it in the said memory at the write address given by the corresponding address pointer, and then incrementing the address pointer, and before reception of the next symbol on this first finger, being capable of reading the contents of the memory stored at the read addresses denoted by the other address pointers, in sequence, summing these contents with the corresponding symbols present on the other fingers, and then storing these sums, except for the sum corresponding to the last finger, at the same read addresses before incrementing the pointers, the last sum corresponding to the last finger being delivered at the output from the combination unit.

9. The receiver according to claim 8, wherein the processing means has a transient phase in which the initial addresses of the address pointers are all equal to the same initial value, for example zero, the different fingers delivering symbols progressively and at different instants, and the processing means is capable of performing the same processing during this transient phase as during the steady

state phase, and for the fingers on which the symbols are present.

10. The receiver according to claim 8, wherein the processing means has a transient phase in which the initial addresses of the address pointers are predetermined taking account of offsets in the number of symbols between paths, and the processing means further including an inhibition functionality that prevents delivery of the last sum corresponding to the last finger at the output of the receiver during the transient phase.

11. The receiver according to claim 8, wherein each symbol is composed of several chips, wherein a rate of the processing means is controlled by a clock signal with a period equal to the duration of one chip divided by a predetermined number, wherein the processing means extracts the contents of the memory denoted by a pointer during one cycle of the clock signal and increments the corresponding pointer in the next cycle.

12. The receiver according to claim 8, wherein the processing means comprises a multiplexer that adds zero to the value of the symbol on the first finger before writing it in memory, so as to be able to use the memory content without it being initialized in advance.

13. The receiver according to claim 8, wherein the processing means comprises a circuit to reset the memory contents located at the address pointed to by the address pointer of the finger that accesses this address before the others to zero, when a symbol arrives on this finger.

14. The receiver according to claim 8, wherein several groups of fingers are assigned to several corresponding transmission channels, and several combination units are connected to corresponding groups of fingers.

15. The receiver according to claim 8, wherein the number of symbols that can be stored in the memory is equal to the number of symbols corresponding to the maximum delay between the paths, plus one.

16. The receiver according to claim 8, wherein the receiver is made in the form of an integrated circuit.

17. The receiver according to claim 8, wherein the receiver is a component part of a wireless communication system.

18. The receiver according to claim 17, wherein the component part is a mobile cell phone.

19. A method of processing an incident signal within a "RAKE" receiver having several fingers, comprising:

receiving the incident signal formed of symbols output from at least one multi-path transmission channel for which each path transports a delayed version of the signal;

detecting paths for allocation to at least some of the fingers; and

combining the information output from each finger assigned to a path within a memory sized to be capable of storing a number of symbols larger than the maximum delay between the paths, the combining including addressing locations in the memory using address pointers associated with the corresponding fingers.

20. The method of claim 19 wherein combining includes a steady state phase of:

using the address pointers to point to locations with mutual spacings taking account of mutual delays between the paths;

storing a current symbol received on a first finger in the memory at the write address location denoted by the corresponding address pointer; and

incrementing this address pointer.

21. The method of claim 20, the combining further including, before reception of the next symbol on this first finger:

extracting the contents of the memory stored at the read locations denoted by all the other address pointers in sequence;

summing the contents in sequence with the symbols present on the other fingers; and

storing these sums, except for the sum corresponding to the last finger, at the same read locations before incrementing the pointers.

22. The method of claim 21 further wherein combining further comprises delivering the last sum corresponding to the last finger at the receiver output.

23. The method of claim 19 wherein combining includes a transient phase of:

setting initial locations for the address pointers to be equal to a same initial value;

outputting symbols from the different fingers progressively and at corresponding different instants;

storing a current symbol received on a finger in the memory at the write address location denoted by the corresponding address pointer; and

incrementing this address pointer.

24. The method of claim 23, the combining further including, before reception of the next symbol on this first finger:

extracting the contents of the memory stored at the read locations denoted by all the other address pointers in sequence;

summing the contents in sequence with the symbols present on the other fingers; and

storing these sums, except for the sum corresponding to the last finger, at the same read locations before incrementing the pointers.

25. An integrated circuit including the RAKE receiver performing the method of claim 19.

26. A mobile telephone device including the RAKE receiver performing the method of claim 19.

27. A RAKE receiver that receives an incident signal having a plurality of paths, comprising:

a plurality of fingers;

a memory having a plurality of addressable locations storing a number of symbols larger than the maximum delay between the paths;

a plurality of address pointers associated with corresponding ones of the plurality of fingers, the address pointers being set to initial locations in the memory which take in account differences in a number of symbols between paths of the incident signal;

a data handling functionality that causes a current symbol received on a given finger to be stored in the memory at a write location given by its corresponding address pointer; and

a summation functionality that causes the contents of the memory stored at read locations given by all the address pointers corresponding to other fingers to be extracted in sequence and summed, where each sequential sum, except for the a last sequential sum corresponding to a last finger being stored at the same read locations, and

wherein the last sequential sum corresponding to the last finger being delivered as output from the receiver.